

Notice of Allowability

Application No.

09/812,401

Examiner

Backhean Tiv

Applicant(s)

BRIGHT ET AL.

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to Telephone Interview with applicant's attorney, 5/20/05 and 5/25/05.
2. ☒ The allowed claim(s) is/are 1-81.
3. ☐ The drawings filed on _____ are accepted by the Examiner.
4. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☐ All b) ☐ Some* c) ☐ None of the:
 1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
 - * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

5. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
6. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
7. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☐ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☒ Interview Summary (PTO-413),
Paper No./Mail Date 5/25/05.
7. ☒ Examiner's Amendment/Comment
8. ☐ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

ZARNI MAUNG

SUPERVISORY PATENT EXAMINER

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given by Bob Brill on 5/20/05.

Please amend the claims as follows:

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1.(currently amended)A multiple-protocol home location register comprising:

a receiver for receiving, from a first standard HLR of a requesting network of at least two networks and without a requirement for any modification to the first standard HLR, a network request according to one of at least two network protocols;

a processor, within the multiple-protocol home location register, wherein the processor is arranged and constructed to generate network messages according to the at least two network protocols and to process the network request to obtain information requested by the network request;

a transmitter, operably coupled to the processor, for relaying the requested information to at least one of the requesting network and a destination network;

a mediation device;

wherein the requesting network comprises the first standard HLR and a first mobile switching center that communicate through employment of a first network protocol of the at least two network protocols;

wherein the destination network comprises a second standard HLR and a second mobile switching center that communicate through employment of a second network protocol of the at least two network protocols;

wherein the multiple-protocol home location register performs a call delivery of a call that originates at a communication device in the requesting network and terminates in the destination network;

wherein the first mobile switching center receives an initial address message from the communication device through employment of the first network protocol, wherein the initial address message comprises a called party number;

wherein the first mobile switching center sends routing information to the first standard HLR in response to the initial address message through employment of the first network protocol;

wherein the first standard HLR determines that the destination network employs the second network protocol;

wherein the first standard HLR sends a provide roaming number message with a first mobile switching center address and first network protocol type to the mediation device;

wherein the mediation device stores the first mobile switching center address and the first network protocol type;

wherein the mediation device converts the provide roaming number message to a location request message in the second network protocol, wherein the location request message comprises a mobile switching center identification that identifies the mediation device;

wherein the mediation devices sends the location request message to the second standard HLR;

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wherein the second standard HLR sends a route request message to the second mobile switching center through employment of the second network protocol, wherein the route request message comprises the mobile switching center identification that identifies the mediation device;

wherein the second mobile switching center sends an acknowledgement message to the second standard HLR in response to the route request message through employment of the second network protocol, wherein the acknowledgement message comprises a temporary location directory number;

wherein the second standard HLR relays the acknowledgement message to the mediation device through employment of the second network protocol;

wherein the mediation device sends a provide roaming number acknowledgement with a mobile subscribing roaming number to the first standard HLR through employment of the first network protocol;

wherein the first standard HLR sends a send routing information acknowledgement to the first mobile switching center through employment of the first network protocol, wherein the send routing information acknowledgement comprises the mobile subscribing roaming number;

wherein the first mobile switching center sends the initial address message with the mobile subscribing roaming number to the second mobile switching center;
wherein the second mobile switching center completes the call to the destination network.

5.(currently amended)A method comprising the steps of:

receiving, by a multiple-protocol home location register, a network request from a first standard HLR of a requesting network of at least two networks and without a requirement for any modification to the first standard HLR, wherein the network request is composed according to one of at least two network protocols;

processing the network request to obtain information requested by the network request;

generating at least one network message according to at least one of the at least two network protocols and sending the at least one network message to at least one network supporting the at least one of the at least two network protocols;

relaying the requested information to a destination network;

receiving, at a first mobile switching center of the requesting network, an initial address message from a communication device through employment of a first network protocol of the at least two network protocols, wherein the initial address message comprises a called party number;

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sending routing information from the first mobile switching center to the first standard HLR in response to the initial address message through employment of the first network protocol;

determining, by the first standard HLR, that the destination network employs a second network protocol of the at least two network protocols;

sending, by the first standard HLR, a provide roaming number message with a first mobile switching center address and first network protocol type to a mediation device;

storing, by the mediation device, the first mobile switching center address and the first network protocol type;

converting, by the mediation device, the provide roaming number message to a location request message in the second network protocol, wherein the location request message comprises a mobile switching center identification that identifies the mediation device;

sending, by the mediation device, the location request message to a second standard HLR of the destination network;

sending, by the second standard HLR, a route request message to the second mobile switching center through employment of the second network protocol, wherein the route request message comprises the mobile switching center identification that identifies the mediation device;

sending, by the second mobile switching center, an acknowledgement message to the second standard HLR in response to the route request message through employment of the second network protocol, wherein the acknowledgement message comprises a temporary location directory number;

relaying, by the second standard HLR, the acknowledgement message to the mediation device through employment of the second network protocol;

sending, by the mediation device, a provide roaming number acknowledgement with a mobile subscribing roaming number to the first standard HLR through employment of the first network protocol;

sending, by the first standard HLR, a send routing information acknowledgement to the first mobile switching center through employment of the first network protocol, wherein the send routing information acknowledgement comprises the mobile subscribing roaming number;

sending, by the first mobile switching center, the initial address message with the mobile subscribing roaming number to the second mobile switching center; and

completing, by the second mobile switching center, the call to the destination network.

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25.(currently amended)A multiple-protocol home location register comprising:

- a first standard HLR arranged and constructed to provide a first network protocol;

- a second standard HLR arranged and constructed to provide a second network protocol;

- a mediation device, operably coupled to the first standard HLR and the second standard HLR without a requirement for any modification to the first standard HLR and/or the second standard HLR, wherein the mediation device is arranged and constructed to generate network messages according to the first network protocol and the second network protocol; such that the multiple-protocol HLR provides HLR capability for a plurality of communication devices utilizing any of the first network protocol and the second network protocol;

a requesting network and a destination network;

wherein the requesting network comprises the first standard HLR and a first mobile switching center that communicate through employment of a first network protocol of the at least two network protocols;

wherein the destination network comprises the second standard HLR and a second mobile switching center that communicate through employment of a second network protocol of the at least two network protocols;

wherein the multiple-protocol home location register performs a call delivery of a call that originates at a communication device in the requesting network and terminates in the destination network;

wherein the first mobile switching center receives an initial address message from the communication device through employment of the first network protocol, wherein the initial address message comprises a called party number;

wherein the first mobile switching center sends routing information to the first standard HLR in response to the initial address message through employment of the first network protocol;

wherein the first standard HLR determines that the destination network employs the second network protocol;

wherein the first standard HLR sends a provide roaming number message with a first mobile switching center address and first network protocol type to the mediation device;

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wherein the mediation device stores the first mobile switching center address and the first network protocol type;

wherein the mediation device converts the provide roaming number message to a location request message in the second network protocol, wherein the location request message comprises a mobile switching center identification that identifies the mediation device;

wherein the mediation devices sends the location request message to the second standard HLR;

wherein the second standard HLR sends a route request message to the second mobile switching center through employment of the second network protocol, wherein the route request message comprises the mobile switching center identification that identifies the mediation device;

wherein the second mobile switching center sends an acknowledgement message to the second standard HLR in response to the route request message through employment of the second network protocol, wherein the acknowledgement message comprises a temporary location directory number;

wherein the second standard HLR relays the acknowledgement message to the mediation device through employment of the second network protocol;

wherein the mediation device sends a provide roaming number acknowledgement with a mobile subscribing roaming number to the first standard HLR through employment of the first network protocol;

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wherein the first standard HLR sends a send routing information acknowledgement to the first mobile switching center through employment of the first network protocol, wherein the send routing information acknowledgement comprises the mobile subscribing roaming number;

wherein the first mobile switching center sends the initial address message with the mobile subscribing roaming number to the second mobile switching center;
wherein the second mobile switching center completes the call to the destination network.

39. (currently amended) A system comprising:

a first standard HLR arranged and constructed to generate at least one query according to a first network protocol without a requirement for any modification to the first standard HLR;

a second standard HLR arranged and constructed to function according to a second network protocol without a requirement for any modification to the second standard HLR; and

a multiple-protocol home location register, operably coupled to the first standard HLR and the second standard HLR, wherein the multiple-protocol home location register is arranged and constructed to function according to the first network protocol and the second protocol, such that a call request according to the first network protocol and related to the at least one query is completed according to the second network protocol;

a requesting network and a destination network;

wherein the requesting network comprises the first standard HLR and a first mobile switching center that communicate through employment of a first network protocol of the at least two network protocols;

wherein the destination network comprises the second standard HLR and a second mobile switching center that communicate through employment of a second network protocol of the at least two network protocols;

wherein the multiple-protocol home location register performs a call delivery of a call that originates at a communication device in the requesting network and terminates in the destination network;

wherein the first mobile switching center receives an initial address message from the communication device through employment of the first network protocol, wherein the initial address message comprises a called party number;

wherein the first mobile switching center sends routing information to the first standard HLR in response to the initial address message through employment of the first network protocol;

wherein the first standard HLR determines that the 'destination network employs the second network protocol;

wherein the first standard HLR sends a provide roaming number message with' a first mobile switching center address and first network protocol type to the multiple-protocol home location register;

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wherein the multiple protocol home location register stores the first mobile switching center address and the first network protocol type;

wherein the multiple-protocol home location register converts the provide roaming number message to a location request message in the second network protocol, wherein the location request message comprises a mobile switching center identification that identifies the multiple-protocol home location register;

wherein the multiple-protocol home location register sends the location request message to the second standard HLR;

wherein the second standard HLR sends a route request message to the second mobile switching center through employment of the second network protocol, wherein the route request message comprises the mobile switching center identification that identifies the multiple protocol home location register;

wherein the second mobile switching center sends an acknowledgement message to the second standard HLR in response to the route request message through employment of the second network protocol, wherein the acknowledgement message comprises a temporary location directory number;

wherein the second standard HLR relays the acknowledgement message to the multiple- protocol home location register through employment of the second network protocol;

wherein the multiple-protocol home location register sends a provide roaming number acknowledgement with a mobile subscribing marring number to the first standard HLR through employment of the first network protocol;

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wherein the first standard HLR sends a send routing information acknowledgement to the first mobile switching center through employment of the first network protocol, wherein the send routing information acknowledgement comprises the mobile subscribing roaming number,

wherein the first mobile switching center sends the initial address message with the mobile subscribing roaming number to the second mobile switching center;
wherein the second mobile switching center completes the call to the destination network.

53.(currently amended)A method comprising the steps of

generating, by a first standard HLR of a requesting network for a first infrastructure device and without a requirement: for any modification to the first standard HLR, a query according to a first network protocol;

sending the first network protocol query to a multiple-protocol home location register functioning according to the first network protocol and a second network protocol;

processing, by the multiple-protocol home location register, the first network protocol query, thereby generating a second network protocol message;

sending the second network protocol message to a second standard HLR of a destination network for a second infrastructure device functioning according to the second network protocol and without a requirement for any modification to the second standard HLR;

receiving, at a first mobile switching center of the requesting network, an initial address message from a communication device through employment of a first network protocol of the at least two network protocols, wherein the initial address message comprises a called party number;

sending routing information from the first mobile switching center to the first standard HLR in response to the initial address message through employment of the first network protocol;

determining, by the first standard HLR, that the destination network employs a second network protocol of the at least two network protocols;

sending, by the first standard HLR, a provide roaming number message with a first mobile switching center address and first network protocol type to a mediation device;

storing, by the mediation device, the first mobile switching center address and the first network protocol type;

converting, by the mediation device, the provide roaming number message to a location request message in the second network protocol, wherein the location request message comprises a mobile switching center identification that identifies the mediation device;

sending, by the mediation device, the location request message to a second standard HLR of the destination network;

sending, by the second standard HLR, a route request message to the second mobile switching center through employment of the second network protocol, wherein

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the route request message comprises the mobile switching center identification that identifies the mediation device;

sending, by the second mobile switching center, an acknowledgement message to the second standard HLR in response to the route request message through employment of the second network protocol, wherein the acknowledgement message comprises a temporary location directory number;

relaying, by the second standard HLR, the acknowledgement message to the mediation device through employment of the second network protocol;

sending, by the mediation device, a provide roaming number acknowledgement with a mobile subscribing roaming number to the first standard HLR through employment of the first network protocol;

sending, by the first standard HLR, a send routing information acknowledgement to the first mobile switching center through employment of the first network protocol, wherein the send routing information acknowledgement comprises the mobile subscribing roaming number;

sending, by the first mobile switching center, the initial address message with the mobile subscribing roaming number to the second mobile switching center;

completing, by the second mobile switching center, the call to the destination network.

73.(currently amended)A multiple-protocol home location register comprising:

a receiver for receiving, from a standard HLR of a requesting network of at least two networks and without a requirement for any modification to the standard HLR, a network request according to one of at least two network protocols;

a processor, within the multiple-protocol home location register, wherein the processor is arranged and constructed to generate network messages according to the at least two network protocols and to process the network request to obtain information requested by the network request;

a transmitter, operably coupled to the processor, for relaying the requested information to at least one of the requesting network and a destination network;

a mediation device;

wherein the standard HLR comprises a first standard HLR;

wherein the requesting network comprises the first standard HLR and a first mobile switching center that communicate through employment of a first network protocol of the at least two network protocols;

wherein the destination network comprises a second standard HLR and a second mobile switching center that communicate through employment of a second network protocol of the at least two network protocols;

wherein the multiple-protocol home location register performs a call delivery of a call that originates at a communication device in the requesting network and terminates in the destination network;

wherein the first mobile switching center receives an initial address message from the communication device through employment of the first network protocol, wherein the initial address message comprises a called party number;

wherein the first mobile switching center sends routing information to the first standard HLR in response to the initial address message through employment of the first network protocol;

wherein the first standard HLR determines that the destination network employs the second network protocol;

wherein the first standard HLR sends a provide roaming number message with a first mobile switching center address and first network protocol type to the mediation device;

wherein the mediation device stores the first mobile switching center address and the first network protocol type;

wherein the mediation device converts the provide roaming number message to a location request message in the second network protocol, wherein the location request message comprises a mobile switching center identification that identifies the mediation device;

wherein the mediation devices sends the location request message to the second standard HLR;

wherein the second standard HLR sends a route request message to the second mobile switching center through employment of the second network protocol, wherein the route request message comprises the mobile switching center identification that identifies the mediation device;

wherein the second mobile switching center sends an acknowledgement message to the second standard HLR in response to the route request message through employment of the second network protocol, wherein the acknowledgement message comprises a temporary location directory number;

wherein the second standard HLR relays the acknowledgement message to the mediation device through employment of the second network protocol;

wherein the mediation device sends a provide roaming number acknowledgement with a mobile subscribing roaming number to the first standard HLR through employment of the first network protocol;

wherein the first standard HLR sends a send routing information acknowledgement to the first mobile switching center through employment of the first network protocol, wherein the send routing information acknowledgement comprises the mobile subscribing roaming number;

wherein the first mobile switching center sends the initial address message with the mobile subscribing roaming number to the second mobile switching center;
wherein the second mobile switching center completes the call to the destination network.

74.(currently amended)The method of claim 5, wherein the first standard HLR comprises a standalone HLR.

76.(currently amended)The multiple-protocol home location register of claim 25, wherein the first standard HLR comprises a standalone HLR.

78.(currently amended)The system of claim 39, wherein the first standard HLR comprises a standalone HLR.

80.(currently amended)The method of claim 53, wherein the first standard HLR comprises a standalone HLR.


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Backhean Tiv whose telephone number is (571)272-3941. The examiner can normally be reached on 9 A.M.-12 P.M. and 1 -6 P.M. Monday-Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Zarni Maung can be reached on (571) 272-3939. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


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